



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,698	09/09/2003	Young-Kwon Cho	45701	8754

7590 02/08/2007  
Peter L. Kendall  
Roylance, Abrams, Berdo & Goodman, L.L.P.  
Suite 600  
1300 19th Street, N.W.  
Washington, DC 20036

EXAMINER
----------

GESESSE, TILAHUN

ART UNIT	PAPER NUMBER
----------	--------------

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/657,698

Applicant(s)

CHO ET AL.

Examiner

Tilahun B. Gesessse

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,9-11,15,18-20 and 23 is/are rejected.
- 7) ☒ Claim(s) 3-5,7-8,12-14,16-17,21-22,24-25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This is in response to applicant's amendment and argument filed November 6, 2006 in which claims 1-25 area pending.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2,6,9-11,15,19-20,23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jin (US 6,658,045) in view of Iancu (US 6,795,452).

Claims 1-2, Jin teaches a mobile terminal apparatus for acquiring a phase of a pseudo-random noise sequence at the mobile terminal that is acquired from a signal received from a base station in a mobile communication system, (column 3, lines 59-column 4, lines 37 , column 5, lines 1-25,lines 55-column 27, column 6, lines 54-68 and figure 1, Items #60,120L and 130L)

comprising:

Jin teaches energy measurer for measuring energy of an early path and a late path and energy measurer for measuring an energy of an on-time path from the acquired PN sequences (see column 4, lines 26-37, column 4, lines 49-68 through column 5, lines 1- 25, column 6, lines 14-28 and column 6 line 40-68) and figure 1 items

Art Unit: 2618

# 60,120L and 130L and column 11, lines 3-14) in which measurement of pilot signal being taking place at the mobile due to movement of the mobile station away from the base station to track the level of the pilot strength at different time and distance of the mobile station from base station.

Jin teaches normalizer for normalizing an energy of the first energy measurer with an energy measured; and tracking a phase of the PN sequence using the normalized energy from the first normalizer (see column 6, lines 14-27 and column 6, lines 54-65 and figure 1 item#130L and column 11, lines 3-14).

Jin does not expressly teach early, late or on-time measurement energy. However, Iancu teaches improve tracking transmission delay and correlates late, early and on-time PN sequences (see column 1, lines 14-51 and figures 1-2).

It would have been obvious to an ordinary skill in the art at the time of the invention was made to measure pilot strength at different point of time, in Jin system; as evidenced by Iancu, in order to offset or error compute which adjust various delay at on time rather than in definite sampling and correlation process that leads to processing load and consumption of power.

Claim 6, Jin teaches the receiving signal is provided from the base station to the mobile terminal as pilot signal on a burst basis (see column 5, lines 55-column 6, line 3).

Claim 9, Jin teaches normalize for dividing energy of the energy measure (see column 11, lines 3-14).

Claims 10-11, Jin teaches a method for acquiring a phase of a pseudo-random noise sequence at the mobile terminal that is acquired from a signal received from a

Art Unit: 2618

base station in a mobile communication system, (column 3, lines 59-column 4, lines 37 , column 5, lines 1-25, lines 55-column 27, column 6, lines 54-68 and figure 1, Items #60,120L and 130L)

comprising:

Jin teaches measuring by the first energy measurer for measuring energy of an early path and a late path and energy measurer for measuring an energy of an on-time path from the acquired PN sequences (see column 4, lines 26-37, column 4, lines 49-68 through column 5, lines 1- 25, column 6, lines 14-28 and column 6 line 40-68) and figure 1 items # 60,120L and 130L and column 11, lines 3-14) in which measurement of pilot signal being taking place at the mobile due to movement of the mobile station away from the base station to track the level of the pilot strength at different time and distance of the mobile station from base station.

Jin teaches normalizing for normalizing an energy of the first energy measurer with an energy measured; and tracking a phase of the PN sequence using the normalized energy from the first normalizer (see column 6, lines 14-27 and column 6, lines 54-65 and figure 1 item \$130L and column 11, lines 3-14).

Jin does not expressly teach tracking measurement energy. However, lancu teaches improve tracking transmission delay and correlates late , early and on-time PN sequences (see column 1, lines 14-51 and figures 1-2).

It would have been obvious to an ordinary skill in the art at the time of the invention was made to track a measure pilot strength at different point of time, in Jin system, as evidenced by lancu , in order to off set or error compute which adjust various delay at

Art Unit: 2618

on time rather than in definite sampling and correlation process that leads to processing load and consumption of power.

Claim 15, Jin teaches the receiving signal is provided from the base station to the mobile terminal as pilot signal on a burst basis (see column 5, lines 55-column 6, line 3).

Claim 18, Jin teaches normalize for dividing energy of the energy measure (see column 11, lines 3-14).

Claimd 19-20, Jin teaches a method for acquiring a phase of a pseudo-random noise sequence at the mobile terminal that is acquired from a signal received from a base station in a mobile communication system, (column 3, lines 59-column 4, lines 37 , column 5, lines 1-25,lines 55-column 27, column 6, lines 54-68 and figure 1, Items #60,120L and 130L)

comprising:

Jin teaches a switch for selecting energy measurer for measuring energy of an early path and a late path and energy measurer for measuring an energy of an on-time path from the acquired PN sequences (see column 4, lines 26-37, column 4, lines 49-68 through column 5, lines 1- 25, column 6, lines 14-28 and column 6 line 40-68) and figure 1 items # 60,120L and 130L and column 11, lines 3-14) in which measurement of pilot signal being taking place at the mobile due to movement of the mobile station away from the base station to tack the level of the pilot strength at different time and distance of the mobile station form base station.

Jin teaches normalizing for normalizing an energy of the first energy measurer with an energy measured; and tracking a phase of the PN sequence using the

normalized energy from the first normalizer (see column 6, lines 14-27 and column 6, lines 54-65 and figure 1 item \$130L and column 11, lines 3-14).

Jin does not expressly teach tracking measurement energy. However, lancu teaches improve tracking transmission delay and correlates late, early and on-time PN sequences (see column 1, lines 14-51 and figures 1-2).

It would have been obvious to an ordinary skill in the art at the time of the invention was made to track a measure pilot strength at different point of time, in Jin system, as evidenced by lancu, in order to offset or error compute which adjust various delay at on time rather than in definite sampling and correlation process that leads to processing load and consumption of power.

Claim 23, Jin teaches the receiving signal is provided from the base station to the mobile terminal as pilot signal on a burst basis (see column 5, lines 55-column 6, line 3).

Claim 24, Jin teaches normalize for dividing energy of the energy measure (see column 11, lines 3-14).

### ***Allowable Subject Matter***

4. Claims 3-5, 7-8, 12-14, 16-17, 21-22, 24-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach a delay processor for delaying the normalized

energy for a predetermined time; and a subtractor for calculating a difference between the nonnormalized energy and the delayed energy and a second normalizer for normalizing the energy difference calculated from the subtractor to a dynamic range.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-2,6,9-11,15,18-20 and 23 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



Liu et al (US 5,982,809) teaches operation of the carrier offset estimator 38 computes a function of the phase change for a plurality of pairs of the received signals (column 9, 18-35 and figure 4).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tilahun B Gesesse whose telephone number is 571-272-7879. The examiner can normally be reached on flexible schedule.

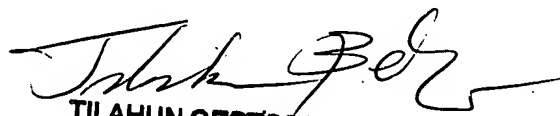
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899.

The Central FAX Number is 571-273-8300. For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number, unless an exception applies.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TG

2/3/07

  
TILAHUN GESESSE  
PRIMARY EXAMINER